

REMARKS

Claims 1-30 and 38 are pending in the present application. Of these claims, 1-6, 16-21, and 38 stand rejected, and claims 7-15 and 22-30 have been objected to. By this amendment, claims 1, 2, 8, 16, 23, and 38 have been amended to cure informalities noted in the present Office Action, and other typographical errors noticed by Applicant. Applicant respectfully requests reconsideration of the present rejections in light of the following remarks.

Concerning the various objections to the claims enumerated in paragraph “1” of the present Office Action, the amendments made herein are believed to address and obviate these objections. Accordingly, Applicant requests withdrawal of the objections.

Claims 1-6, 16-21, and 38 were rejected under 35 U.S.C. §103(a), as being unpatentable over Chen (U.S. Patent No. 7,154,846) in view of Kim et al. (U.S. Patent No. 7,072,324). by Solve (U.S. Patent No. 6,353,645). Applicants respectfully traverse this rejection for the following reasons.

Claim 1 recites, among other things, “feeding the modulation symbol sequence to a plurality of orthogonal sequence covers, wherein each of the plurality of orthogonal sequence covers outputs one of a plurality of spread sequences of output chips.” Contrary to the assertions in the present Office Action, Chen does not teach or suggest “feeding the modulation symbol sequence to a plurality of orthogonal sequence covers.” Instead, the symbols in FIG. 1D of Chen, using the example cited in the Office Action, are demultiplexed by a symbol demultiplexer 870 and then 16-ary Walsh covers applied to each respective demultiplexed symbol. In other words, symbol demultiplexer breaks the incoming symbols into symbols for respective channels and applies an appropriate Walsh cover (See e.g., col. 8, ll. 16-18). Thus, this teaching is not feeding the modulation symbol sequence to a plurality of orthogonal sequence covers (e.g., a simultaneous, parallel application of distinct orthogonal covers to the same symbol sequence (i.e., not broken up according to channel)), as claimed, but is instead teaching feeding demultiplexed symbols (i.e., sequence broken up by channel) to respective Walsh covers (i.e.,

selective application of Walsh covers to symbols broken up by channel, which is not a parallel application of Walsh codes as each symbol only is applied a singular Walsh cover).

Moreover, claim 1 features “wherein each of the plurality of orthogonal sequence covers outputs one of a plurality of spread sequences of output chips, and further wherein the plurality of spread sequences of output chips are configured to be transmitted over a multiple-input multiple-output channel” Chen specifically teaches that the output chips from the 16-ary covers 872 and a Walsh channel gain 873 are summed by summer 874 to single I and Q outputs (the same applies to example in FIG. 1C of Chen). Thus, Chen does not teach configuring a plurality of spread sequence of output chips for a multiple input multiple output channel, as recognized in the present Office Action.

The cited secondary reference (Kim et al), however, does not make up for this deficiency contrary to the assertions in the present Office Action. Although Kim discloses an orthogonal transmission diversity (OTD) transmitter, with two antennas (A & B), again the symbols are divided or broken up, in the same way as Chen (See e.g., col. 2, ll. 39-43 of Kim). Thus, even if Chen and Kim were combinable as asserted, the combination of teachings still fails to teach or suggest “feeding the modulation symbol sequence to a plurality of orthogonal sequence covers,” but instead teaches dividing or breaking up a sequence of modulation symbols and respectively feeding the divided out symbols to corresponding Walsh covers (i.e., a singular sequence is not fed to two or more orthogonal sequence covers, but each of the divided out symbols is only delivered to singular Walsh cover). Thus, the cited references, either taken separately or combined, do not teach or suggest all of the features of claim 1 and the rejection should be withdrawn, accordingly.

Concerning independent claims 16 and 38, these claims contain elements similar to claim 1 and are believed to be allowable over the cited prior art for at least the same reasons presented above.

With respect to dependent claims 2-6 and 17-22, which respectively depend from independent claim 1 and 16, addressed above, these claims are believed to be allowable based on their dependencies, as well as on their merits.

Applicant thanks the Examiner for indicating the allowability of claims 7-15 and 22-30. As the amendments made to claims 8 and 23 herein are believed to resolve the outstanding

rejections of these claims, claims 8-15 and 23-30 are now believed to be allowable. Concerning dependent claims 7 and 22, these claims have not been rewritten at this time, pending reconsideration of the allowability of independent claims 1 and 16, discussed above.

In view of the foregoing remarks, Applicants submit that all pending claims in the application are in condition for allowance. Accordingly, allowance of this application is earnestly solicited.

Respectfully submitted,

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